



## **2016 Annual Drinking Water Quality Report – Highland**

Annual Water Quality Report for the period of January 1 to December 31, 2016.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. The source of drinking water used by HIGHLAND is Surface Water.

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### **Source of Drinking Water**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPAs Safe Drinking Water Hotline at (800) 426-4791.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

### **Source Water Information**

**Source Water Name:** INTAKE (60107) SILVER LAKE SILVER LAKE RESERVOIR - **Type of Water:** SW - **Location:** TOPO MAP219C

### **Source Water Assessment**

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings on the first and third Monday of the month at City Hall. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at 618-654-9321.

To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

**Source of Water:** HIGHLAND, Illinois. EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems; hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection.

## **2016 Regulated Contaminants Detected**

### **Lead and Copper**

Definitions: Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.  
Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

<b><u>Lead and Copper</u></b>	<b><u>Date Sampled</u></b>	<b><u>MCLG</u></b>	<b><u>Action Level (AL)</u></b>	<b><u>90th Percentile</u></b>	<b><u># Sites Over AL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Copper	08/14/2014	1.3	1.3	0.24	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	08/14/2014	0	15	6.5	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

## **Water Quality Test Results**

Definitions:	The following tables contain scientific terms and measures, some of which may require explanation.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment:	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment:	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level or MCL:	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG:	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Residual Disinfectant Level or MRDL:	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum Residual Disinfectant Level Goal or MRDLG:	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
NA:	Not applicable.
mrem:	Millirems per year (a measure of radiation absorbed by the body).
ppb:	Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

**Regulated Contaminants**

<b><u>Disinfectants and Disinfection By-Products</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Chloramines	12/31/2016	2.2	0.9 - 3.3	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2016	26	0 - 28.9	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	28	10.62 - 35.3	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
<b><u>Inorganic Contaminants</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Barium	2016	0.033	0.033 - 0.033	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2016	0.8	0.778 - 0.778	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2016	1	1 - 1	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	2016	8	7.7 - 7.7	-	-	ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
<b><u>Radioactive Contaminants</u></b>	<b><u>Collection Date</u></b>	<b><u>Highest Level Detected</u></b>	<b><u>Range of Levels Detected</u></b>	<b><u>MCLG</u></b>	<b><u>MCL</u></b>	<b><u>Units</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Combined Radium 226/228	07/01/2014	0.814	0.814 - 0.814	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	07/01/2014	2.11	2.11 - 2.11	0	15	pCi/L	N	Erosion of natural deposits.

**Turbidity**

	<b><u>Limit (Treatment Technique)</u></b>	<b><u>Level Detected</u></b>	<b><u>Violation</u></b>	<b><u>Likely Source of Contamination</u></b>
Highest single measurement	1 NTU	0.26 NTU	N	Soil runoff.

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

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Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff.
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Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

**Total Organic Carbon**

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

**Cryptosporidium**

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water indicate the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water. One Cryptosporidium oocyst was detected in one monthly sample of the raw lake water before any treatment.